CLAIMS

WHAT IS CLAIMED IS:

1.) A composition comprising:

(a) at least one refrigeration lubricant selected from the group consisting of POEs, PAGs, and PVEs; and

(b) at least one additive selected from the group consisting of polyoxyalkylene glycol ethers, amides, nitriles, chlorocarbons, aryl ethers, 1,1,1-trifluoroalkanes, fluoroethers, lactones, esters, crown compounds, cyclodextrins, and calixarenes.

2.) A composition comprising:

(a) at least one refrigerant selected from the group consisting of hydrofluorocarbons, perfluorocarbons, hydrofluoroethers, ammonia and carbon dioxide;

(b) at least one refrigeration lubricant selected from the group consisting of POEs, PAGs, and PVEs; and

(c) at least one additive selected from the group consisting of polyoxyalkylene glycol ethers, amides, nitriles, chlorocarbons, aryl ethers, 1,1,1-trifluoroalkanes, fluoroethers, lactones, esters, crown compounds, cyclodextrins, and calixarenes.

3.) A composition for use in compression refrigeration and air conditioning apparatus containing POE, PAG, or PVE lubricant, said refrigerant composition comprising:

(a) at least one refrigerant selected from the group consisting of hydrofluorocarbons, perfluorocarbons, hydrofluoroethers, ammonia and carbon dioxide; and

(b) at least one additive selected from the group consisting of polyoxyalkylene glycol ethers, amides, nitriles, chlorocarbons, aryl ethers, 1,1,1-trifluoroalkanes, fluoroethers, lactones, esters, crown compounds, cyclodextrins, and calixarenes.

4.) The composition of claim 1, wherein said additive is at least one selected from the group consisting of:

(i) polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$, wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4; R^1 is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites; R^2 is selected from aliphatic hydrocarbylene radicals having from 3 to 4 carbon atoms; R^3 is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of R^1 and R^3 is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;

(ii) amides represented by the formulae $R^1CONR^2R^3$ and cyclo-$[R^4CON(R^5)-]$, wherein R^1, R^2, R^3 and R^5 are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; R^4 is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20;

(iii) nitriles represented by the formula R^1CN, wherein R^1 is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12;

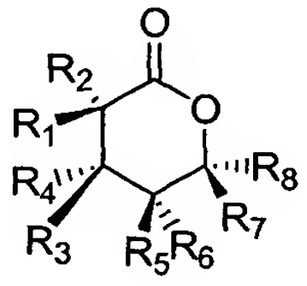
(iv) chlorocarbons represented by the formula RCl_x, wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10;

(v) aryl ethers represented by the formula R^1OR^2, wherein: R^1 is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms; R^2 is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 250 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20;

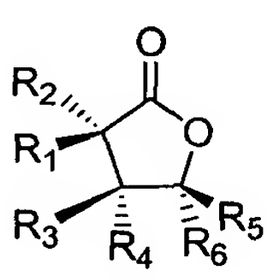
(vi) 1,1,1-trifluoroalkanes represented by the formula CF_3R^1, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and

(vii) fluoroethers represented by the formula $R^1OCF_2CF_2H$, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms;

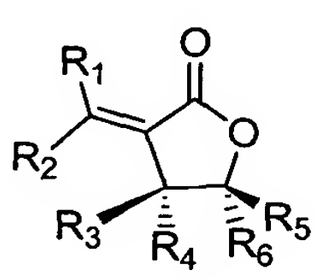
(viii) a lactone selected from the group consisting of compounds represented by formula I, II, and III:



I



II



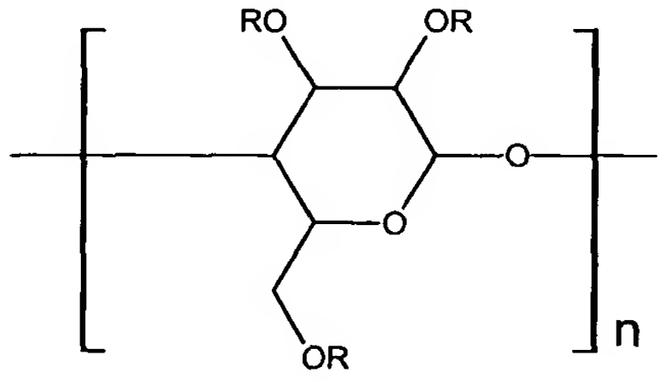
III

wherein, R_1 through R_8 are independently selected from hydrogen, linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals; and wherein the carbon to ester functional group carbonyl oxygen ratio is from about 5 to about 15 and the molecular weight is from about 80 to about 300 atomic mass units;

(ix) esters represented by the general formula $R^1CO_2R^2$, wherein R^1 and R^2 are independently selected from linear and cyclic, saturated and unsaturated, alkyl and aryl radicals; and wherein said esters have a molecular weight of from about 80 to about 550 atomic mass units and a carbon to ester functional group carbonyl oxygen ratio of from about 5 to about 15; and

(x) crown compounds with the repeating unit $-(CH_2-CH_2-Y)_n-$ joined in a circular structure, wherein Y is a heteroatom, such as oxygen, nitrogen or sulfur, and n is greater than 2;

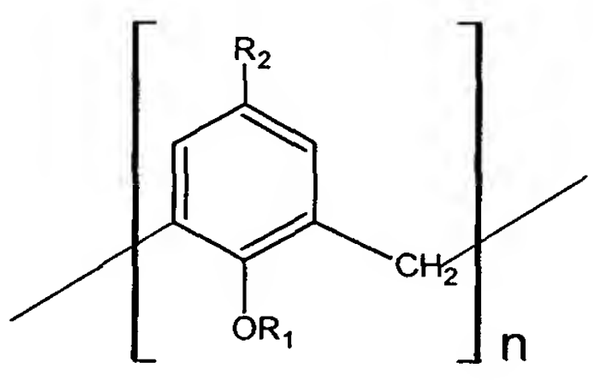
(xi) cyclodextrins with the repeating unit represented by formula IV connected in a circular structure:



IV

wherein each R group is independently selected from hydrogen or linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n is equal to 6, 7, or 8; and

(xii) calixarenes with the repeating unit represented by formula V connected in a circular structure:



V

wherein each R_1 and R_2 group is independently selected from hydrogen linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n = 4, 5, 6, 7, or 8.

5.) The composition of claim 2 or 3, wherein said additive is at least one selected from the group consisting of:

(i) polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$, wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4; R^1 is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and

y bonding sites; R^2 is selected from aliphatic hydrocarbylene radicals having from 3 to 4 carbon atoms; R^3 is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of R^1 and R^3 is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;

(ii) amides represented by the formulae $R^1CONR^2R^3$ and cyclo-[$R^4CON(R^5)$-], wherein R^1, R^2, R^3 and R^5 are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; R^4 is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20;

(iii) nitriles represented by the formula R^1CN, wherein R^1 is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12;

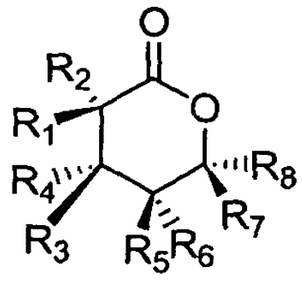
(iv) chlorocarbons represented by the formula RCl_x, wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10;

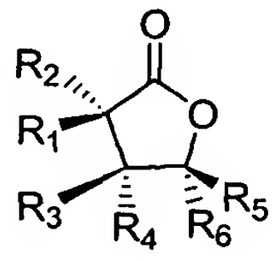
(v) aryl ethers represented by the formula R^1OR^2, wherein: R^1 is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms; R^2 is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 250 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20;

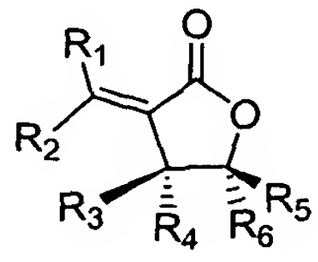
(vi) 1,1,1-trifluoroalkanes represented by the formula CF_3R^1, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and

(vii) fluoroethers represented by the formula $R^1OCF_2CF_2H$, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms;

(viii) a lactone selected from the group consisting of compounds represented by formula I, II, and III:







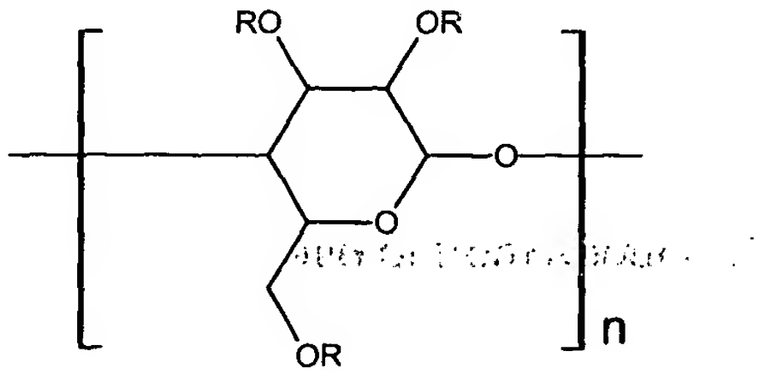
I II III

wherein, R_1 through R_8 are independently selected from hydrogen, linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals; and wherein the carbon to ester functional group carbonyl oxygen ratio is from about 5 to about 15 and the molecular weight is from about 80 to about 300 atomic mass units;

(ix) esters represented by the general formula $R^1CO_2R^2$, wherein R^1 and R^2 are independently selected from linear and cyclic, saturated and unsaturated, alkyl and aryl radicals; and wherein said esters have a molecular weight of from about 80 to about 550 atomic mass units and a carbon to ester functional group carbonyl oxygen ratio of from about 5 to about 15;

(x) crown compounds with the repeating unit $-(CH_2-CH_2-Y)_n-$ joined in a circular structure, wherein Y is a heteroatom, such as oxygen, nitrogen or sulfur, and n is greater than 2;

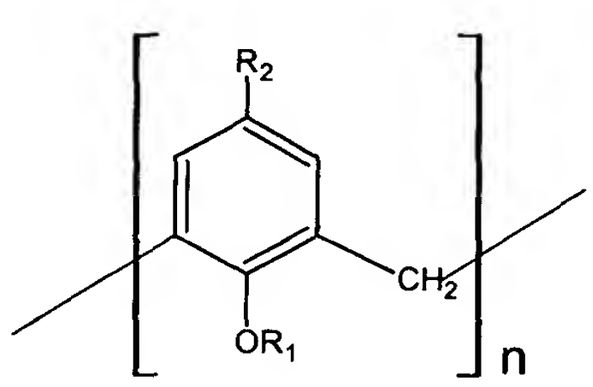
(xi) cyclodextrins with the repeating unit represented by formula IV connected in a circular structure:



IV

wherein each R group is independently selected from hydrogen or linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n is equal to 6, 7, or 8; and

(xii) calixarenes with the repeating unit represented by formula V connected in a circular structure:



V

wherein each R_1 and R_2 group is independently selected from hydrogen linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n = 4, 5, 6, 7, or.8.

6.) The composition of claim 1, wherein said lubricant is from about 40 to about 99 weight percent and said additive is from about 1 to about 60 weight percent.

7.) The composition of claim 1, wherein said lubricant is from about 80 to about 99 weight percent and said additive is from about 1 to about 20 weight percent.

8.) A method of producing refrigeration with compression refrigeration and/or air-conditioning systems containing HFCs, PFCs, HFEs, ammonia and/or carbon dioxide refrigerant, and a refrigeration lubricant selected from the group consisting of POEs, PAGs, and PVEs, which comprises the step of evaporating said refrigerant with said lubricant in the presence of an effective amount of additive, wherein said additive is selected from the group consisting of:

(i) polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$, wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4; R^1 is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites; R^2 is selected from aliphatic hydrocarbylene radicals having from 3 to 4 carbon atoms; R^3 is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of R^1 and R^3 is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;

(ii) amides represented by the formulae $R^1CONR^2R^3$ and cyclo-$[R^4CON(R^5)-]$, wherein R^1, R^2, R^3 and R^5 are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; R^4 is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20;

(iii) nitriles represented by the formula R^1CN, wherein R^1 is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12;

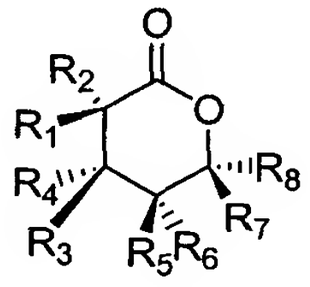
(iv) chlorocarbons represented by the formula RCl_x, wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10;

(v) aryl ethers represented by the formula R^1OR^2, wherein: R^1 is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms; R^2 is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 250 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20;

(vi) 1,1,1-trifluoroalkanes represented by the formula CF_3R^1, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms;

(vii) fluoroethers represented by the formula $R^1OCF_2CF_2H$, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms;

(viii) a lactone selected from the group consisting of compounds represented by formula I, II, and III:



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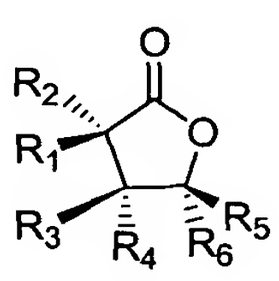
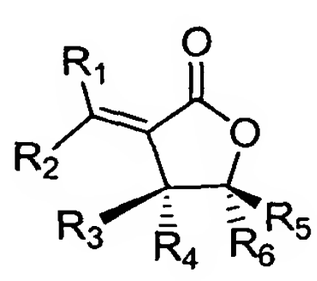


II



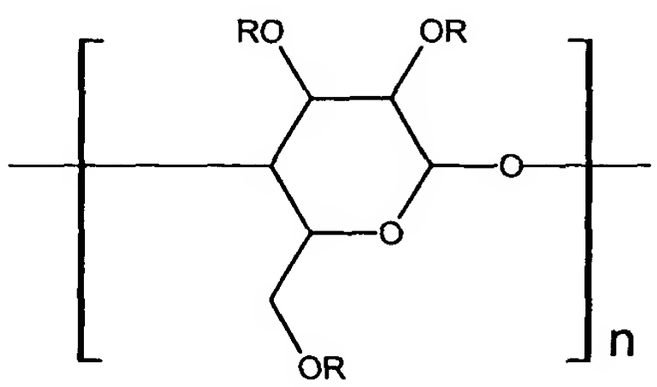
III

wherein, R_1 through R_8 are independently selected from hydrogen, linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals; and wherein the carbon to ester functional group carbonyl oxygen ratio is from about 5 to about 15 and the molecular weight is from about 80 to about 300 atomic mass units;

(ix) esters represented by the general formula $R^1CO_2R^2$, wherein R^1 and R^2 are independently selected from linear and cyclic, saturated and unsaturated, alkyl and aryl radicals; and wherein said esters have a molecular weight of from about 80 to about 550 atomic mass units and a carbon to ester functional group carbonyl oxygen ratio of from about 5 to about 15; and

(x) crown compounds with the repeating unit $-(CH_2-CH_2-Y)_n-$ joined in a circular structure, wherein Y is a heteroatom, such as oxygen, nitrogen or sulfur, and n is greater than 2;

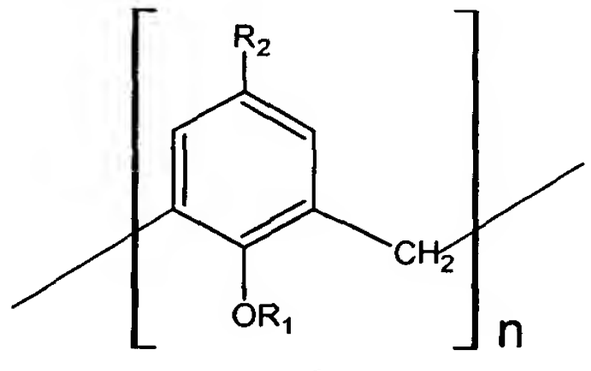
(xi) cyclodextrins with the repeating unit represented by formula IV connected in a circular structure:



IV

wherein each R group is independently selected from hydrogen or linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n is equal to 6, 7, or 8; and

(xii) calixarenes with the repeating unit represented by formula V connected in a circular structure:



V

wherein each R_1 and R_2 group is independently selected from hydrogen linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n = 4, 5, 6, 7, or 8.

9.) A method of lubricating a compressor in a compression refrigeration and/or air-conditioning apparatus containing HFCs, PFCs, HFEs, ammonia and/or carbon dioxide, comprising the step of adding to said compressor the composition of claim 1.

10.) A method of improving the energy efficiency and/or capacity of a compression refrigeration and/or air-conditioning apparatus containing a refrigeration composition comprising at least one refrigerant selected from the group consisting of hydrofluorocarbons, perfluorocarbons, hydrofluoroethers, ammonia and carbon dioxide; and at least one refrigeration lubricant selected from the group consisting of POEs, PAGs, and PVEs; said method comprises the step of adding to said compression refrigeration and/or air-conditioning apparatus at least one additive selected from the group consisting of:

(i) polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$, wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4; R^1 is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites; R^2 is selected from aliphatic hydrocarbylene radicals having from 3 to 4 carbon atoms; R^3 is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of R^1 and R^3 is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;

(ii) amides represented by the formulae $R^1CONR^2R^3$ and cyclo-[$R^4CON(R^5)$-], wherein R^1, R^2, R^3 and R^5 are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; R^4 is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20;

(iii) nitriles represented by the formula R^1CN, wherein R^1 is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12;

(iv) chlorocarbons represented by the formula RCl_x, wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12

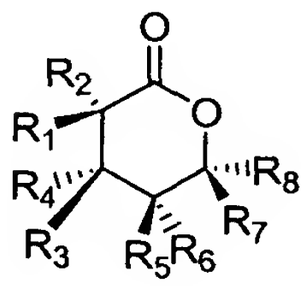
carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10;

(v) aryl ethers represented by the formula R^1OR^2, wherein: R^1 is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms; R^2 is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 250 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20;

(vi) 1,1,1-trifluoroalkanes represented by the formula CF_3R^1, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and

(vii) fluoroethers represented by the formula $R^1OCF_2CF_2H$, wherein R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms;

(viii) a lactone selected from the group consisting of compounds represented by formula I, II, and III:



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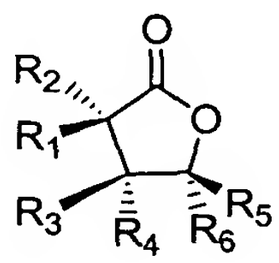
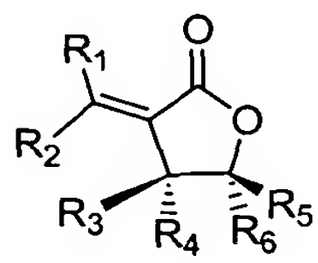


II



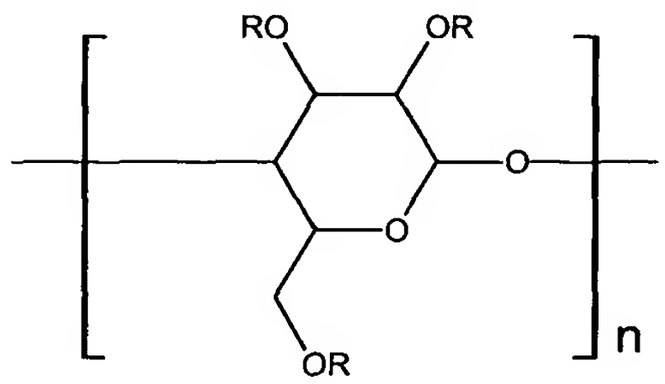
III

wherein, R_1 through R_8 are independently selected from hydrogen, linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals; and wherein the carbon to ester functional group carbonyl oxygen ratio is from about 5 to about 15 and the molecular weight is from about 80 to about 300 atomic mass units;

(ix) esters represented by the general formula $R^1CO_2R^2$, wherein R^1 and R^2 are independently selected from linear and cyclic, saturated and unsaturated, alkyl and aryl radicals; and wherein said esters have a molecular weight of from about 80 to about 550 atomic mass units and a carbon to ester functional group carbonyl oxygen ratio of from about 5 to about 15; and

(x) crown compounds with the repeating unit $-(CH_2-CH_2-Y)_n-$ joined in a circular structure, wherein Y is a heteroatom, such as oxygen, nitrogen or sulfur, and n is greater than 2;

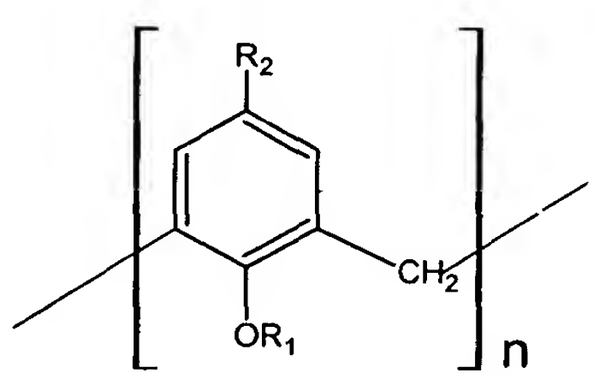
(xii) cyclodextrins with the repeating unit represented by formula IV connected in a circular structure:



IV

wherein each R group is independently selected from hydrogen or linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n is equal to 6, 7, or 8; and

(xiii) calixarenes with the repeating unit represented by formula V connected in a circular structure:



V

wherein each R_1 and R_2 group is independently selected from hydrogen linear, branched, cyclic, bicyclic, saturated and unsaturated hydrocarbyl radicals having up to 10 carbon atoms and n = 4, 5, 6, 7, or 8.

11.) A process for producing refrigeration, comprising condensing a composition of claim 2, 3, or 5, and thereafter evaporating said composition in the vicinity of a body to be cooled.

12.) A process for producing heat, comprising condensing a composition of claim 2, 3, or 5 in the vicinity of a body to be heated, and thereafter evaporating said composition.

13.) The composition of claim 1, 2, 3, 4, or 5, wherein:

(i) in the polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$ x is selected from the integers 1 or 2, y is 1, R^1 and R^3 are independently selected from hydrogen and aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms, R^2 is selected from aliphatic hydrocarbylene radicals having 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 250 atomic mass units and a carbon to oxygen ratio of from about 2.5 to about 4.0;

(ii) said amides have a molecular weight of from about 120 to about 250 atomic mass units and a carbon to oxygen ratio of from about 7 to about 16;

(iii) in the nitriles represented by the formula R^1CN, R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from 8 to 10 carbon atoms, and wherein said nitriles have a molecular weight of from about 120 to about 140 atomic mass units and a carbon to nitrogen ratio of from about 8 to about 9;

(iv) said chlorocarbons have a molecular weight of from about 120 to 150 atomic mass units and a carbon to chlorine ratio of from about 6 to about 7; and

(v) said aryl ethers have a carbon to oxygen ratio of from about 7 to about 10.

14.) The method of claim 8, 9 or 10, wherein:

(i) in the polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$ x is selected from the integers 1 or 2, y is 1, R^1 and R^3 are independently selected from hydrogen and aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; R^2 is selected from aliphatic hydrocarbylene radicals having 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 250 atomic mass units and a carbon to oxygen ratio of from about 2.5 to about 4.0;

(ii) said amides have a molecular weight of from about 120 to about 250 atomic mass units and a carbon to oxygen ratio of from about 7 to about 16;

(iii) in the nitriles represented by the formula R^1CN, R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from 8 to 10 carbon atoms, and wherein said nitriles have a molecular weight of from about 120 to about 140 atomic mass units and a carbon to nitrogen ratio of from about 8 to about 9;

(iv) said chlorocarbons have a molecular weight of from about 120 to 150 atomic mass units and a carbon to chlorine ratio of from about 6 to about 7; and

(v) said aryl ethers have a carbon to oxygen ratio of from about 7 to about 10.

15.) The process of claim 11 or 12, wherein:

(i) in the polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$ x is selected from the integers 1 or 2, y is 1, R^1 and R^3 are independently selected from hydrogen and aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms, R^2 is selected from aliphatic hydrocarbylene radicals having 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 250 atomic mass units and a carbon to oxygen ratio of from about 2.5 to about 4.0;

(ii) said amides have a molecular weight of from about 120 to about 250 atomic mass units and a carbon to oxygen ratio of from about 7 to about 16;

(iii) in the nitriles represented by the formula R^1CN, R^1 is selected from aliphatic and alicyclic hydrocarbon radicals having from 8 to 10 carbon atoms, and wherein said nitriles have a molecular weight of from about 120 to about 140 atomic mass units and a carbon to nitrogen ratio of from about 8 to about 9;

(iv) said chlorocarbons have a molecular weight of from about 120 to 150 atomic mass units and a carbon to chlorine ratio of from about 6 to about 7; and

(v) said aryl ethers have a carbon to oxygen ratio of from about 7 to about 10.

16.) The composition of claim 1, 2, 3, 4, or 5, wherein in the polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$, x is selected from the integers 1 or 2, y is 1, R^1 and R^3 are independently selected from hydrogen and aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms, R^2 is selected from aliphatic hydrocarbylene radicals having 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 125 to about 250 atomic mass units and a carbon to oxygen ratio of from about 2.5 to 4.0.

17.) The method of claim 8, 9 or 10, wherein in the polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$, x is selected from the integers 1 or 2, y is 1, R^1 and R^3 are independently selected from hydrogen and aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms, R^2 is selected from aliphatic hydrocarbylene radicals having 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 125 to about 250 atomic mass units and a carbon to oxygen ratio of from about 2.5 to 4.0.

18.) The process of claim 11 or 12, wherein in the polyoxyalkylene glycol ethers represented by the formula $R^1[(OR^2)_xOR^3]_y$, x is selected from the integers 1 or 2, y is 1, R^1 and R^3 are independently selected from hydrogen and aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms, R^2 is selected from aliphatic hydrocarbylene radicals having 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 125 to about 250 atomic mass units and a carbon to oxygen ratio of from about 2.5 to 4.0.

19.) The composition of claim 1, 2, 3, 4, or 5, wherein said amides are represented by the formula cyclo-$[(CR^6R^7)_nCON(R^5)-]$, wherein n is selected from integers from 3 to 5, R^6 and R^7 are hydrogen or contain a single saturated hydrocarbon radical among the n methylene units, and R^5 is selected from saturated hydrocarbon radicals containing from 1 to 12 carbon atoms, and where said amides have a molecular weight of from about 160 to about 250 atomic mass units and a carbon to oxygen ratio of from about 7 to about 16.

20.) The method of claim 8, 9 or 10, wherein said amides are represented by the formula cyclo-[$(CR^6R^7)_nCON(R^5)$-], wherein n is selected from integers from 3 to 5, R^6 and R^7 are hydrogen or contain a single saturated hydrocarbon radical among the n methylene units, and R^5 is selected from saturated hydrocarbon radicals containing from 1 to 12 carbon atoms, and where said amides have a molecular weight of from about 160 to about 250 atomic mass units and a carbon to oxygen ratio of from about 7 to about 16.

21.) The process of claim 11 or 12, wherein said amides are represented by the formula cyclo-[$(CR^6R^7)_nCON(R^5)$-], wherein n is selected from integers from 3 to 5, R^6 and R^7 are hydrogen or contain a single saturated hydrocarbon radical among the n methylene units, and R^5 is selected from saturated hydrocarbon radicals containing from 1 to 12 carbon atoms, and where said amides have a molecular weight of from about 160 to about 250 atomic mass units and a carbon to oxygen ratio of from about 7 to about 16.

22.) A method for delivering an additive to a compression refrigeration apparatus, comprising the step of adding the composition of claim 1, 2, 3, 4, or 5 to said apparatus.

23.) A method for reducing deposits and pluggage in a compression refrigeration and/or air-conditioning apparatus comprising the step of adding a composition of claims 1, 2, 3, 4, or 5 to said compression refrigeration and/or air-conditioning apparatus.